

# **PART 70 MINOR SOURCE MODIFICATION OFFICE OF AIR QUALITY**

Nucor Steel  
County Road 400 East  
Crawfordsville, Indiana 47933

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this approval.

This approval is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Source Modification No.: 107-15599-00038	
Issued by: Original Signed by Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: April 10, 2002

April 10, 2002

Mr. John Ferriola  
Nucor Steel  
4537 South Nucor Road  
Crawfordsville, IN 47933

Re: Minor Source Modification No:  
107-15599-00038

Dear Mr. Ferriola:

Nucor Steel applied for a Part 70 operating permit on November 14, 1996 for a steel mill. An application to modify the source was received on February 18, 2002. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

- (a) One (1) mill scale screen and conveyor system, with a maximum throughput rate of 350 tons per hour.
- (b) One (1) diesel engine, with a maximum power output of 47 horsepower.

The proposed Minor Source Modification approval will be incorporated into the pending Part 70 permit application pursuant to 326 IAC 2-7-10.5(l)(3). The source may begin operation upon issuance of the source modification approval.

Pursuant to Contract No. A305-0-00-36, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Yu-Lien Chu, ERG, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (919) 468-7871 to speak directly to Ms. Chu. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (800) 451-6027, press 0 and ask for Duane Van Laningham, or extension 3-6878, or dial (317) 233-6878.

Sincerely,

Original Signed by Paul Dubenetzky  
Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Quality

Attachments

ERG/YC

cc: File - Montgomery County  
U.S. EPA, Region V  
Montgomery County Health Department  
Air Compliance Section Inspector - Jim Thorpe  
Compliance Data Section - Karen Nowak  
Administrative and Development - Sara Cloe

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## SECTION A

## SOURCE SUMMARY

This approval is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the emission units contained in conditions A.1 through A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this approval pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

### A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

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The Permittee owns and operates a stationary steel mill.

Responsible Official:	Ron Dickerson, General Manager
Source Address:	4537 South Nucor Road, Crawfordsville, IN 47933
Mailing Address:	4537 South Nucor Road, Crawfordsville, IN 47933
General Source Phone Number:	(765) 361-2659
SIC Code:	3312
County Location:	Montgomery County
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major, under PSD; Major Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

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This stationary source is approved to construct and operate the following emission units and pollution control devices:

- (a) One (1) mill scale screen and conveyor system, uncontrolled, with a maximum throughput rate of 350 tons of mill scale per hour.
- (b) One (1) diesel engine, with a maximum power output of 47 horsepower.

### A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

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This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

## **SECTION B                      GENERAL CONSTRUCTION CONDITIONS**

### **B.1        Definitions [326 IAC 2-7-1]**

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Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

### **B.2        Effective Date of the Permit [IC 13-15-5-3]**

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Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

### **B.3        Revocation of Permits [326 IAC 2-1.1-9(5)][326 IAC 2-7-10.5(i)]**

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Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

## SECTION C GENERAL OPERATION CONDITIONS

### C.1 Certification ~~[326 IAC 2-7-4(f)]~~[326 IAC 2-7-6(1)]~~[326 IAC 2-7-5(3)(C)]~~

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification.
- (c) A responsible official is defined at 326 IAC 2-7-1(34).

### C.2 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] ~~[326 IAC 1-6-3]~~

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) when operation begins, including the following information on each facility:
  - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
  - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
  - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

The PMP and the PMP extension notification do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The Permittee shall implement the PMPs as necessary to ensure that failure to implement a PMP does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or contributes to any violation. The PMP does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

**C.3 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]**

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(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

**C.4 Opacity [326 IAC 5-1]**

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Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

**C.5 Fugitive Dust Emissions [326 IAC 6-4]**

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The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

**C.6 Operation of Equipment [326 IAC 2-7-6(6)]**

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Except as otherwise provided by statute or rule, or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission unit vented to the control equipment is in operation.

**Compliance Requirements [326 IAC 2-1.1-11]**

**C.7 Compliance Requirements [326 IAC 2-1.1-11]**

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The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

**Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]**

**C.8 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]**

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If required by Section D, all monitoring and record keeping requirements shall be implemented when operation begins. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment.



**C.9 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]**

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Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60 Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

**Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]**

**C.10 Compliance Response Plan - Preparation, Implementation, Records , and Reports [326 IAC 2-7-5] [326 IAC 2-7-6]**

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- (a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:
- (1) Reasonable response steps that may be implemented in the event that response step is needed pursuant to the requirements of Section D of this permit; and an expected time frame for taking reasonable response steps.
  - (2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan to include such response steps taken.
- (b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:
- (1) Reasonable response steps shall be taken as set fourth in the Permittee's current Compliance Response Plan; or
  - (2) If none of the reasonable response steps listed in the compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.
  - (3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, the IDEM, OAQ shall be promptly notified of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.
  - (4) Failure to take reasonable response steps shall constitute a violation of the permit

**C.11 Emergency Provisions [326 IAC 2-7-16]**

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- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.

- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
- (2) The permitted facility was at the time being properly operated;
- (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
- (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality,  
Compliance Section), or  
Telephone Number: 317-233-5674 (ask for Compliance Section)  
Facsimile Number: 317-233-5967

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

- (e) IDEM, OAQ, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(10) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ, by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.
- (g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

**C.12 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5]  
[326 IAC 2-7-6]**

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- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The documents submitted pursuant to this condition do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

**C.13 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]**

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- (a) Records of all required data, reports and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

**C.14 General Reporting Requirements [326 IAC 2-7-5(3)(C)]**

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- (a) The reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (c) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

## SECTION D.1

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]

- (a) One (1) mill scale screen and conveyor system, uncontrolled, with a maximum throughput rate of 350 tons of mill scale per hour.
- (b) One (1) diesel engine, with a maximum power output of 47 horsepower.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards [326 IAC 2-7-5(1)]

#### D.1.1 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

The mill scale throughput rate to the mill scale screen and conveyor system shall not exceed 1,092,000 tons per twelve (12) consecutive month period. This limit is equivalent to PM emissions of 18.8 tons/yr and PM10 emissions of 9.0 tons/yr. Combined with the emissions for the diesel engine, PM emissions from the project are limited to less than 25 tons per year and PM10 emissions from the project are limited to less than 15 tons per year. Therefore, 326 IAC 2-2 does not apply.

#### D.1.2 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(c) (Process Operations), the allowable PM emission rate from the mill scale screen and conveyor system shall not exceed 64.8 pounds per hour when operating at a process weight rate of 350 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40$$

where E = rate of emission in pounds per hour; and  
P = process weight rate in tons per hour

#### D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility.

### Compliance Determination Requirements

#### D.1.4 PM/PM10 Emissions

Compliance with Condition D.1.1 shall be demonstrated within 30 days of the end of each month based on the total throughput weight for the most recent twelve (12) consecutive month period. During the first twelve (12) months of operation, the throughput weight of mill scale shall not exceed 91,000 tons per month.

#### D.1.5 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

### **Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

#### **D.1.6 Visible Emissions Notations**

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- (a) Visible emission notations of the screen and conveyor shall be performed once per shift during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

### **Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

#### **D.1.7 Record Keeping Requirements**

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- (a) To document compliance with Condition D.1.1, the Permittee shall maintain records in accordance with (1) and (2) below.
  - (1) The total mill scale throughput weight for each month; and
  - (2) The mill scale throughput weight for each compliance period.
- (b) To document compliance with Condition D.1.6, the Permittee shall maintain records of visible emission notations of the screen and conveyor exhaust while combusting fuel oil.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### **D.1.8 Reporting Requirements**

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A quarterly summary of the information to document compliance with Condition D.1.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1-1(1).

## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

### PART 70 SOURCE MODIFICATION CERTIFICATION

Source Name: Nucor Steel  
Source Address: 4537 South Nucor Road, Crawfordsville, IN 47933  
Mailing Address: 4537 South Nucor Road, Crawfordsville, IN 47933  
Source Modification No.: 107-15599-00038

**This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this approval.**

Please check what document is being certified:

- 9 Test Result (specify) \_\_\_\_\_
- 9 Report (specify) \_\_\_\_\_
- 9 Notification (specify) \_\_\_\_\_
- 9 Affidavit (specify) \_\_\_\_\_
- 9 Other (specify) \_\_\_\_\_

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**Part 70 Source Modification Quarterly Report**

Source Name: Nucor Steel  
Source Address: 4537 South Nucor Road, Crawfordsville, IN 47933  
Mailing Address: 4537 South Nucor Road, Crawfordsville, IN 47933  
Source Modification No.: 107-15599-00038  
Facility: The mill scale screen and conveyor system.  
Parameter: Mill scale throughput.  
Limit: Less than 1,092,000 tons per 12 consecutive month period.

YEAR: \_\_\_\_\_

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.  
Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
Title / Position: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_



## Indiana Department of Environmental Management Office of Air Quality

### Technical Support Document (TSD) for a Part 70 Source Modification.

#### Source Background and Description

Source Name:	Nucor Steel
Source Location:	4537 South Nucor Road, Crawfordsville, IN 47933
County:	Montgomery
SIC Code:	3312
Operation Permit No.:	107-7172-00038
Operation Permit Issuance Date:	Not yet issued
Minor Source Modification No.:	179-15599-00038
Permit Reviewer:	ERG/YC

The Office of Air Quality (OAQ) has reviewed a modification application from Nucor Steel relating to the construction of the following emission units and pollution control devices:

- (a) One (1) mill scale screen and conveyor system, uncontrolled, with a maximum throughput rate of 350 tons of mill scale per hour.
- (b) One (1) diesel engine, with a maximum power output of 47 horsepower.

#### History

On February 18, 2002, Nucor Steel submitted an application to the OAQ requesting to install a new mill scale screen and conveyor system and a diesel engine to their existing plant. Currently, Nucor Steel does not have any mill scale screen and conveyor system, and the scale mill is sold without any additional handling. Therefore, the installation of the screen and conveyor system will not result in debottle necking or increase utilization issues. Nucor Steel submitted an application for a Part 70 permit on November 14, 1996; however, the Part 70 permit has not been issued yet.

#### Enforcement Issue

There are no enforcement actions pending.

#### Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
S30	Diesel Engine	8	0.5	Unknown	Unknown

#### Recommendation

The staff recommends to the Commissioner that the Part 70 Minor Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on February 18, 2002.

### Emission Calculations

See Appendix A of this document for detailed emissions calculations (pages 1 and 2).

### Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA.”

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	53.25
PM-10	25.59
SO <sub>2</sub>	0.42
VOC	0.51
CO	1.38
NO <sub>x</sub>	6.38

HAP's	Potential To Emit (tons/year)
TOTAL	Negligible

### Justification for Modification

The Part 70 Operating permit is being modified through a Part 70 Minor Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5 (d)(5)(E) as the potential to emit of any regulated pollutant is limited to less than 25 tons per year by limiting the mill scale throughput.

### County Attainment Status

The source is located in Montgomery County.

Pollutant	Status
PM-10	attainment
SO <sub>2</sub>	attainment
NO <sub>2</sub>	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Montgomery County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

- (b) Montgomery County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

### Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM-10	165.14
SO <sub>2</sub>	144.54
VOC	53.72
CO	616.21
NO <sub>x</sub>	251.72

- (a) This existing source is a major stationary source because an attainment regulated pollutant is emitted at a rate of 100 tons per year or more, and it is one of the 28 listed source categories.
- (b) These emissions are based upon actual emissions for 2000 from Nucor Steel based on Emissions Inventory of IDEM.

### Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

	Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
Mill Scale Screening Process and Conveyor	Less than 18.8	Less than 9.0	-	-	-	-	-
Diesel Engine (Insignificant)	0.45	0.45	0.42	0.51	1.38	6.38	Negligible
Total Emissions from Project	Less than 19.3	Less than 9.5	0.42	0.51	1.38	6.38	Negligible
PSD Threshold	25	15	40	40	100	40	NA

- (a) This modification to an existing major stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

- (b) The PM emissions from the entire project are limited to 19.3 tons/yr, and the PM10 emissions are limited to 9.0 tons/yr. This is attained by limiting the mill scale throughput to less than 1,092,000 tons per 12 consecutive month period. Therefore, PSD requirements do not apply.

### **Federal Rule Applicability**

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this proposed modification.

### **State Rule Applicability - Individual Facilities**

#### **326 IAC 2-2 (Prevention of Significant Deterioration)**

In order for this construction project to be considered a minor modification, the mill scale throughput rate to the mill scale screen and conveyor system shall be limited to 1,092,000 tons per twelve (12) consecutive month period. This limit is equivalent to PM emissions of 18.8 tons/yr and PM10 emissions of 9.0 tons/yr (see Appendix). Combined with the emissions from the diesel engine, PM emissions from this project will be limited to less than 25 tons per year and PM10 emissions will be limited to less than 15 tons per year. Therefore, 326 IAC 2-2 does not apply.

#### **326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))**

The operation of the screener/conveyor and the diesel engine will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply to these units.

#### **326 IAC 8-1-6 (New Facilities - General Reduction Requirement)**

The screener/conveyor and diesel engine each have potential VOC emissions less than twenty-five (25) tons per year; therefore, these units are not subject to the provisions of 326 IAC 8-1-6.

#### **326 IAC 5-1 (Opacity Limitations)**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

#### **326 IAC 6-3-2 (Process Operations)**

The allowable PM emission rate from the mill scale screen and conveyor system shall not exceed 64.8 pounds per hour when operating at a process weight rate of 350 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40$$

where E = rate of emission in pounds per hour; and  
P = process weight rate in tons per hour

According to the emission calculations for this process (see Appendix A), the potential to emit PM from this process is 12.06 lbs/hr. Therefore, the mill scale screen and conveyor system will be in compliance with 326 IAC 6-3-2.

## Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this modification are as follows:

1. The mill scale screen and conveyor system has applicable compliance monitoring conditions as specified below:
  - (a) Visible emissions notations of the stack exhausts from the screen and conveyor system shall be performed once per shift during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

These monitoring conditions are necessary because the mill scale screen and conveyor system must operate properly to ensure compliance with 326 IAC 6-3 (Process Operation) and 326 IAC 2-2 (PSD).

## Conclusion

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Minor Source Modification No. 179-15599-00038.

**Appendix A: Emission Calculations**  
**PM and PM10 Emissions**  
**From the Mill Scale Screening and Conveyor System**

**Company Name: Nucor Steel**  
**Address City IN Zip: 4537 S. Nucor Rd, Crawfordsville, IN 47933**  
**Modification #: 107-15599-00038**  
**Reviewer: ERG/YC**  
**Date: March 11, 2002**

**1. Uncontrolled Potential Emissions**

Maximum Throughput Rate:

350
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(tons/hr)

Process	PM10 Emission Factor (lbs/ton)	Potential PM10 Emissions (lbs/hr)	Potential PM10 Emissions (tons/yr)	*PM Emission Factor (lbs/ton)	Potential PM Emissions (lbs/hr)	Potential PM Emissions (tons/yr)
Mill Scale Screening	0.015	5.25	23.00	0.0315	11.03	48.29
Mill Scale Conveyor	0.0014	0.49	2.15	0.00294	1.03	4.51
<b>Total</b>		<b>5.74</b>	<b>25.14</b>		<b>12.06</b>	<b>52.80</b>

\*Assume PM emissions equals to TSP (total suspended particulate) emissions.

**Methodology**

Emission Factors from AP-42, Chapter 11.19, Table 11.19.2-2 - Crushed stone processing operations.(AP-42 01/95)

AP-42 indicated that TSP emission factors may be estimated by multiplying PM10 emission factors multiply by 2.1.

Potential Emission (lbs/hr) = Maximum Throughput (tons/hr) x Emission Factor (lb/ton)

Potential Emission (tons/yr) = Maximum Throughput (tons/hr) x Emission Factor (lb/ton) x 8760 hr/yr x 1 lb/2,000 ton

**2. Potential To Emit (PTE):**

Throughput Rate Limit: 1,092,000 tons/yr

PTE of PM10: 1,092,000 tons/yr x (0.015+0.0014) lbs/ton x 1 ton/2000 lb = 9.0 tons/yr

PTE of PM: 1,092,000 tons/yr x (0.0315+0.00294) lbs/ton x 1 ton/2000 lb = 18.8 tons/yr

## Appendix A: Emission Calculations Internal Combustion Engines

### From the Diesel Compressor Engine (Insignificant)

**Company Name: Nucor Steel**  
**Address City IN Zip: 4537 S. Nucor Rd, Crawfordsville, IN 47933**  
**Modification #: 107-15599-00038**  
**Reviewer: ERG/YC**  
**Date: March 11, 2002**

Power Output  
Horse Power

47.0

	Pollutant					
Emission Factor in lb/HP-hr	PM* 2.20E-03	PM10 2.20E-03	SO2 2.05E-03	NO <sub>x</sub> 0.031	**VOC 2.47E-03	CO 6.68E-03
<b>Potential Emission in tons/yr</b>	<b>0.45</b>	<b>0.45</b>	<b>0.42</b>	<b>6.38</b>	<b>0.51</b>	<b>1.38</b>

\*Assume PM10 emission equals to PM emissions.

\*\* Assume TOC (total organic compounds) emissions equal to VOC emissions.

### Methodology

All Emission factors are based on normal firing.

Emission Factors from AP-42, Chapter 3.3, Table 3.3-1, SCC #2-02-001-02 and 2-03-001-01.(AP-42 Supplement B 10/96)

Emission (tons/yr) = Power Output (HP) x Emission Factor (lb/HP-hr) x 8760 hr/yr x 1 lb/2,000 ton